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CLAIM 1. An improved counter-rotating compression machine comprising:

a) a housing containing at least two counter-rotating blade rows, each blade row having a plurality of blades;

b) a boundary layer collector associated with at least one of said blades;

c) at least one passage in said blade which is associated with said boundary collector, said passage being in communication with said collector and leading to a location away from the flow of said compression machine.

CLAIM 2. An improved counter-rotating compression machine as claimed in claim 1 wherein said at least one passage is a single passage.

CLAIM 3. An improved counter-rotating compression machine as claimed in claim 2 wherein said passage has a matched centrifugal pressure gradient variation to a variation of a stagnation pressure relative to moving blades in the rotating blade rows.

CLAIM 4. An improved counter-rotating compression machine as claimed in claim 2 wherein said collector is a slot.

CLAIM 5. An improved counter-rotating compression machine as claimed in claim 2 wherein said collector is a scoop.

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CLAIM 6. An improved counter-rotating compression machine as claimed in claim 2 wherein said collector is a porous structure.

CLAIM 7. In combination, a counter-rotating compression machine and at least one boundary layer collector disposed in said compression machine, said boundary layer collector being adapted to remove a boundary layer in said machine and avoid reintroducing said boundary layer to a main flow of the machine.

CLAIM 8. The combination as claimed in claim 7 wherein said compression machine further includes a compressor and a turbine and two moving blade rows in each of said compressor and said turbine.

CLAIM 9. An improved counter-rotating compression machine as claimed in claim 1 wherein said boundary layer collector is associated with a plurality of said plurality of blades.

CLAIM 10. An improved counter-rotating compression machine as claimed in claim 1 wherein said boundary layer collector is associated with all of said plurality of blades.

CLAIM 11. A method for improving a counter-rotating compressor comprising:

a) removing a boundary flow from at least one of a plurality of blades of the compressor and;

b) depositing the fluid in a location away from the main flow of the compressor.

CLAIM 12. A method for improving a counter-rotating compressor as claimed in claim 11 wherein said compressor employs two moving blade rows.

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